

ICF-1000L

SERVICE MANUAL

Ver 1.0 2000.07

*AEP Model
UK Model*



SPECIFICATIONS

Frequency range:

FM: 87.5 – 108.0 MHz
SW: 5.95 – 18 MHz
MW: 530 – 1 605 kHz
LW: 153 – 255 kHz

Speaker:

Approx. 10.2 cm (4 1/8 inches) dia. 8 Ω

Power output:

1W (at 10% harmonic distortion)

Output:

◎ jack (ø 3.5 mm minijack)

Power requirements:

With the supplied AC power cord:
220 – 230 V AC, 50 Hz

With four R6 (size AA) batteries: 6V DC

Dimensions:

Approx. 299 x 139.5 x 83.2 mm (w/h/d)
(11 7/8 x 5 1/2 x 3 3/8 inches) incl. projecting parts and control.

Mass:

Approx. 1100 g (2 lb 7 oz) incl. batteries

Supplied accessory:

AC power cord(1)

Design and specifications are subject to change
without notice.

FM/SW/MW/LW 4 BAND RADIO

SONY[®]

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• HOW TO CHANGE THE CERAMIC FILTER

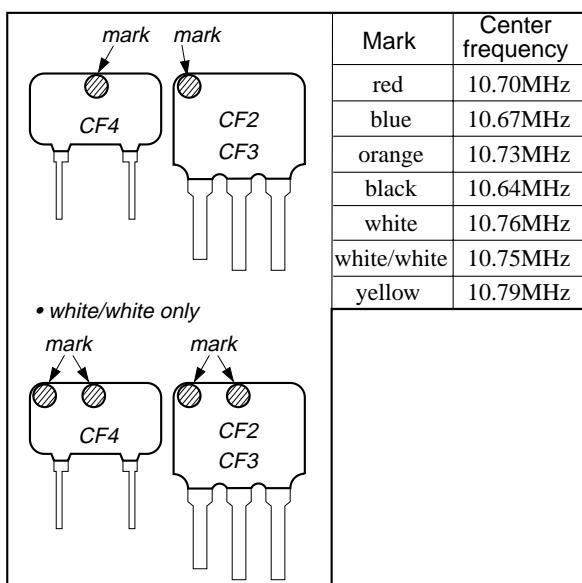
This model is used three ceramic filters of CF2, CF3 and CF4. You must use same type of color marked ceramic filters in order to meet same specifications. Therefore, the ceramic filter must change three pieces together since it's supply three pieces in package as a spare parts.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

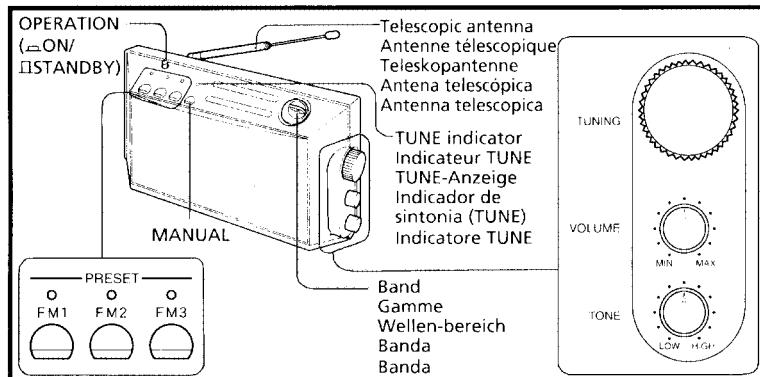
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



SECTION 1 GENERAL

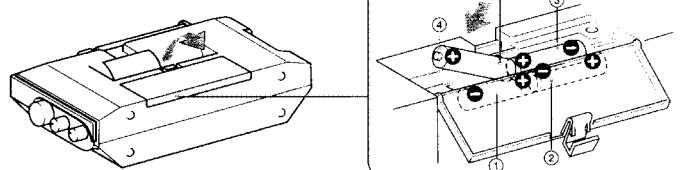
This section is extracted from instruction manual.



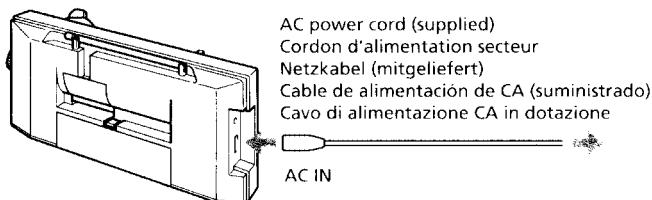
A

R6 (size AA) battery x 4
pile R6 (format AA) x 4
Mignonelle (R6/AA) x 4
pila R6 (tamaño AA) x 4
pila R6 (formato AA) x 4

Insert the \ominus side of the battery first.
Insérez le côté \ominus de la pile en premier.
Batterie mit der \ominus Seite zuerst einlegen.
Inserte en primer lugar el lado \ominus de las pilas.
Inserire prima il lato \ominus della pila.

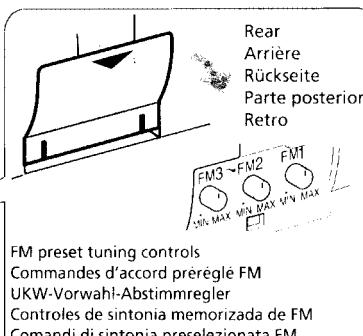


B

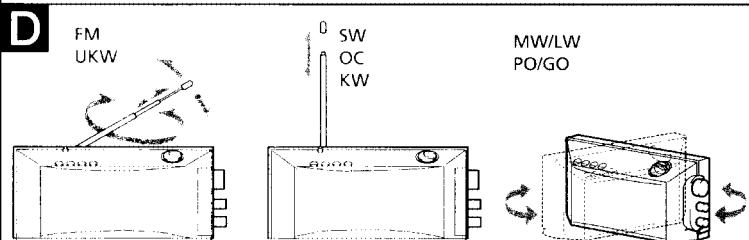


C

FM preset tuning indicators
Voyants d'accord des préréglages FM
UKW-Vorwahlsenderanzeige
Indicadores de sintonía memorizada de FM
Indicatori di sintonia preselezionata FM



D



Choosing Power Sources

Batteries (See Fig. A)

- 1 Open the lid of the battery compartment.
- 2 Insert four R6 (size AA) batteries (not supplied) with correct polarity.
- 3 Close the lid.

Battery Life (approximate hours)

	Sony alkaline LR6 (size AA)	Sony R6 (size AA)
FM reception	30	15
SW/MW/LW reception	36	18

Replacing batteries

Replace all the batteries with new ones when the batteries become exhausted. The time to replace them is:

- When the sound becomes weak or distorted, or
- When FM PRESET indicator (FM1, FM2, or FM3) or TUNE indicator fades away, and the sound of the radio begins to be interrupted.

Notes on batteries

- Insert the batteries with correct polarity.
- Do not charge the dry batteries.
- Do not use different types of batteries at the same time.
- When you replace the batteries, replace all with new ones.
- When the unit is not being used for a long period of time, remove the batteries to avoid damage from battery leakage and corrosion.
- If a battery leakage occurs, wipe the battery compartment with a soft cloth before inserting new ones.

House Current (See Fig. B)

- 1 Connect the AC power cord supplied to the AC IN jack of the radio.
- 2 Plug into a wall outlet.

Operating the Radio

Manual tuning

- 1 Press OPERATION (■) to turn on the radio.
- 2 Press MANUAL.
- 3 Select a desired band, and tune in a station using TUNING. TUNE (tuning) indicator lights up when a station is tuned in.
- 4 Adjust the volume using VOLUME.
- 5 Adjust the tone to your preference using TONE.

To obtain clear treble, turn to "HIGH".
To reinforce bass, set to "LOW".

- To turn off the radio, press OPERATION (□).

Note

When the FM preset indicator is being lit, you cannot use the manual tuning. If you tune in a station manually, press MANUAL again.

FM preset tuning (See Fig. C)

You can preset up to 3 FM stations (one station for each PRESET FM1, FM2, FM3 buttons).

- 1 Press PRESET FM1.
- 2 Turn VOLUME a little to get sound.
- 3 Open the lid of the FM preset tuning controls located on the rear of the unit.
- 4 Tune in a desired FM station using the FM1 preset tuning control.
Turn the control to "MAX" for higher frequencies, and to "MIN" for lower frequencies.
When the station is tuned in, the TUNE indicator will light up.
The stations is now preset.
Preset on the FM2 and FM3 buttons in the same way.
- 5 Adjust the volume using VOLUME.

To change the preset station

Preset a new station on a desired button.

To Tune in a Preset Station

The desired FM station will be received simply by pressing the FM1, FM2, FM3 button.

- To turn off the radio, press OPERATION (□). When you turn on the radio again, the station previously turned in will be received.
- To tune in preset station after replacing batteries or disconnecting the power cord, press PRESET FM1, FM2 or FM3 again.
- To listen with an earphone (not supplied) connect the earphone to the \ominus (earphone) jack. The speaker is deactivated when an earphone is connected.

To improve Receiving condition (See Fig. D)

FM: Extend the telescopic antenna and adjust its length, direction and angle for the best reception.

SW: Extend the telescopic antenna vertically.

MW/LW: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built into the unit.

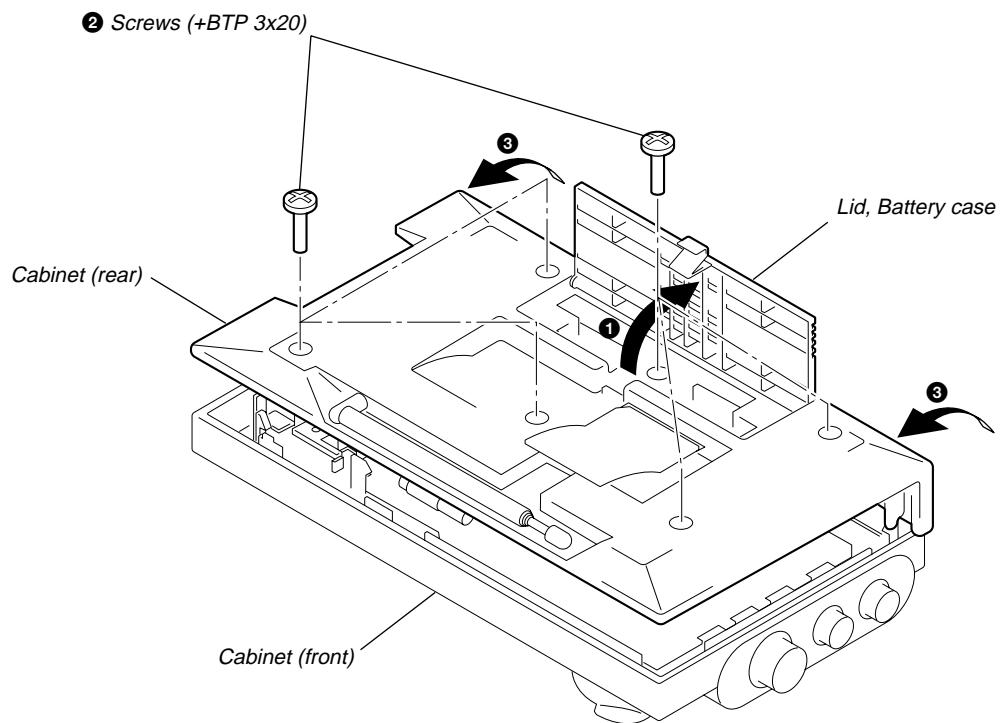
SECTION 2 DISASSEMBLY

• The equipment can be removed using the following procedure.

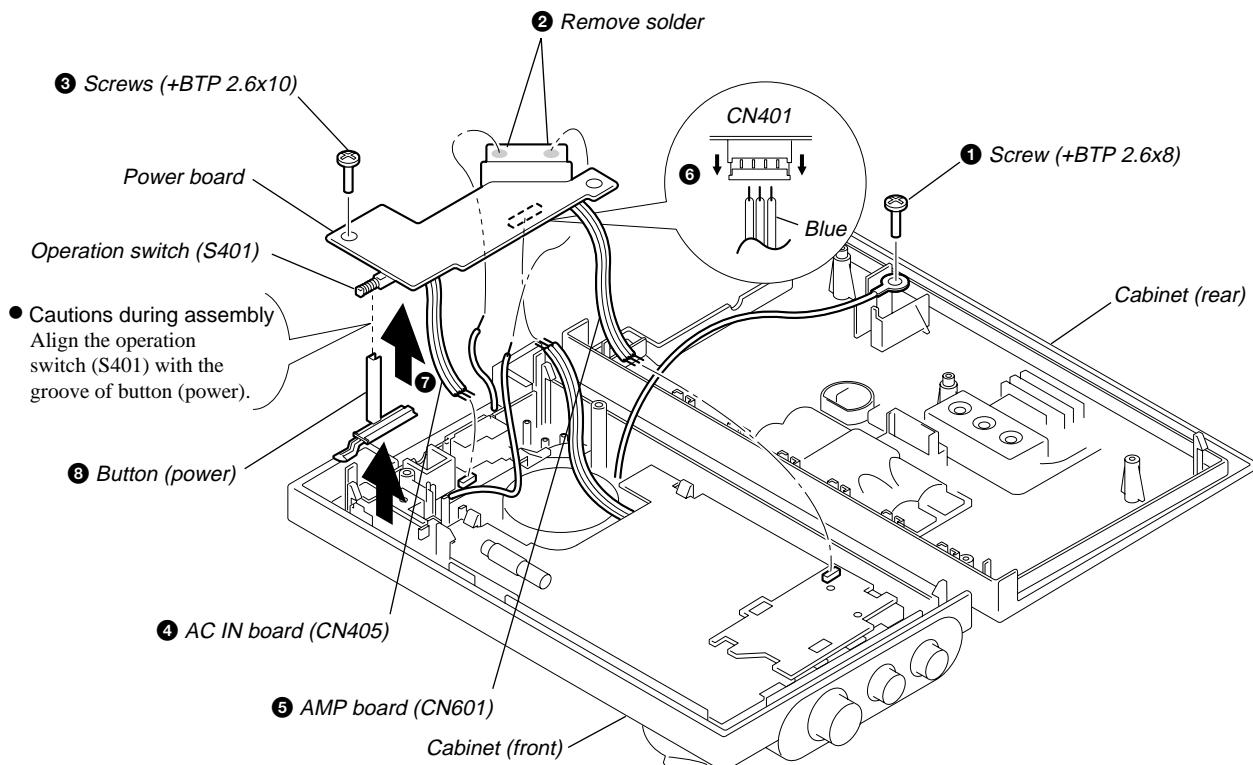
Set → Cabinet (rear) → Power board → AC IN board
 → AMP board → Main board, Key board

Note: Follow the disassembly procedure in the numerical order given.

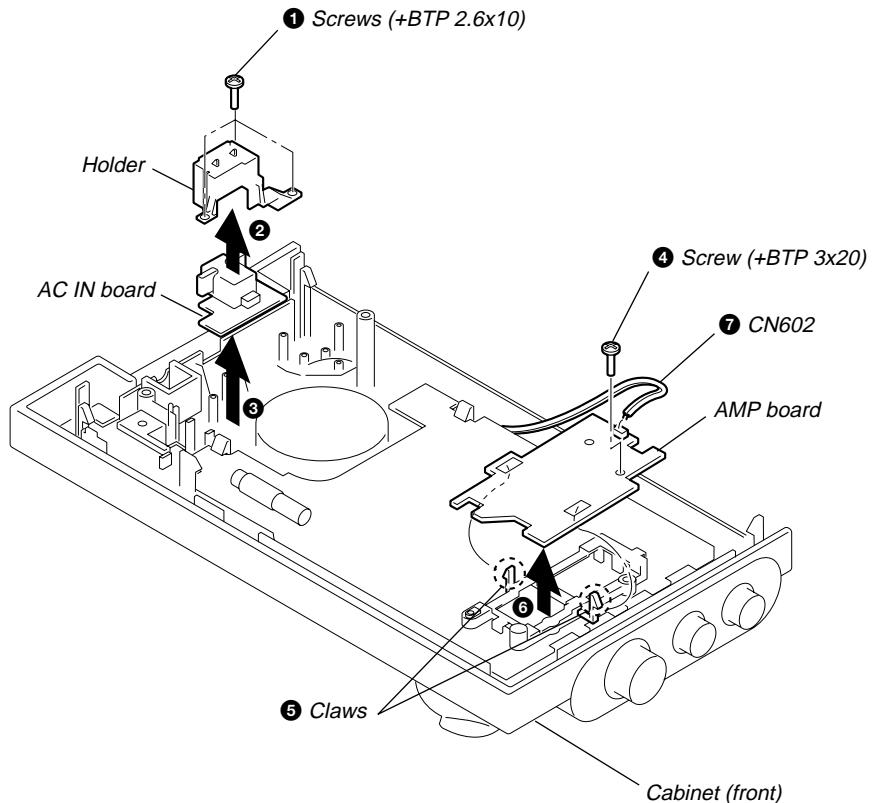
2-1. CABINET (REAR)



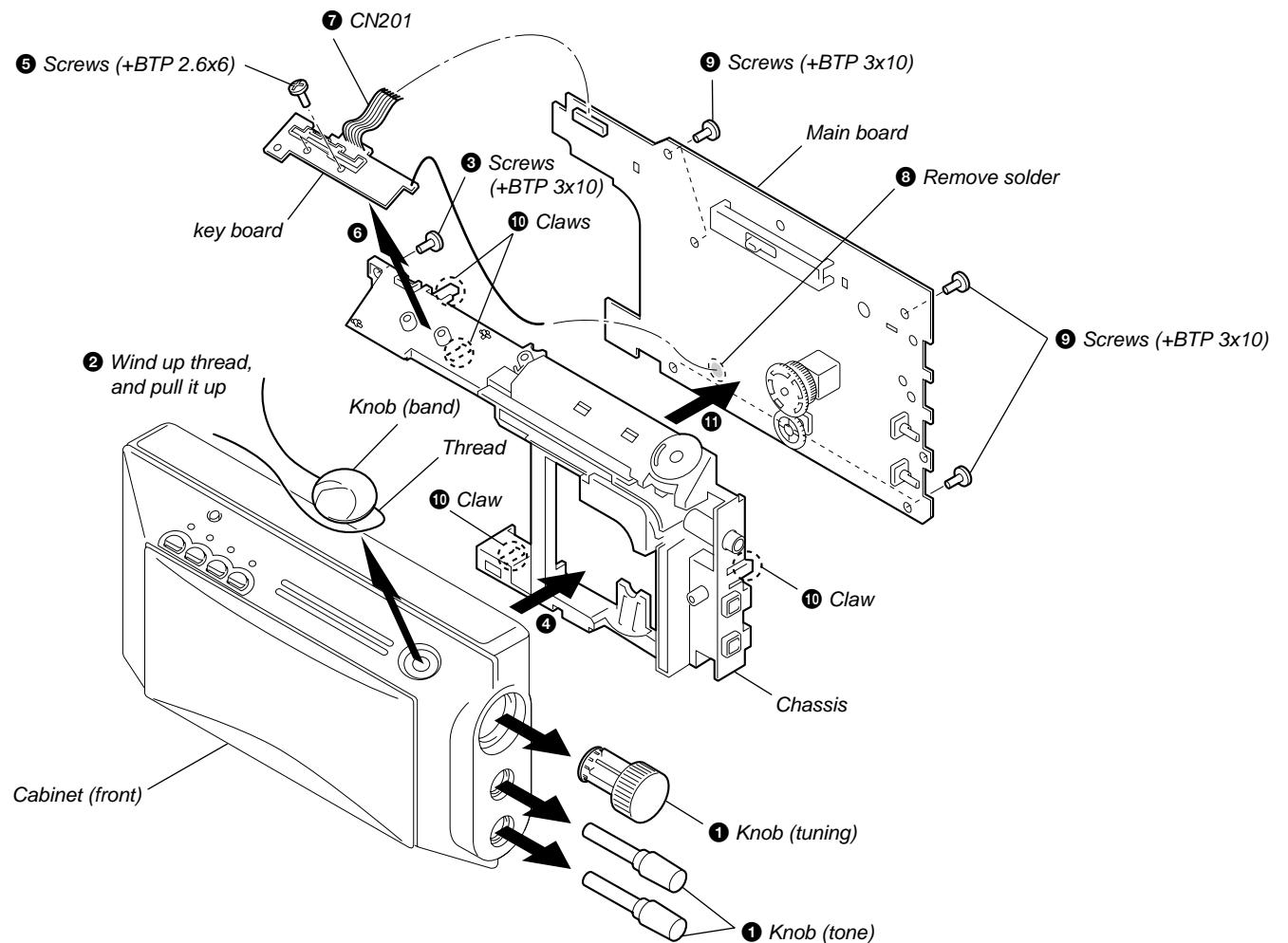
2-2. POWER BOARD



2-3. AC IN BOARD, AMP BOARD

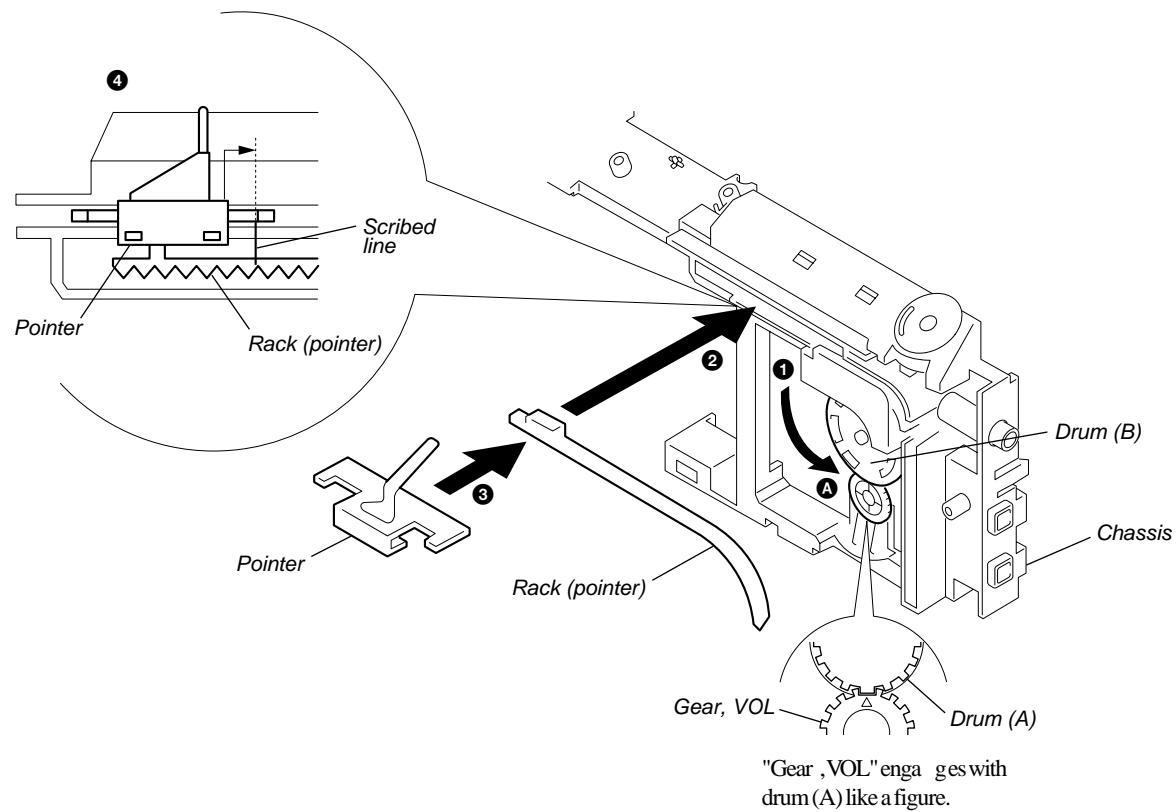


2-4. MAIN BOARD, KEY BOARD



2-5. SETTING THE POINTER

- ① Turn the drum (B) in the direction of **A** until it stopped.
- ② Insert the rack (pointer) into the chassis groove.
- ③ Install the pointer .
- ④ Slid the pointer and align it with the groove on the scribed

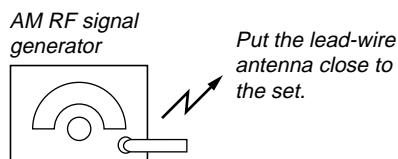


SECTION 3

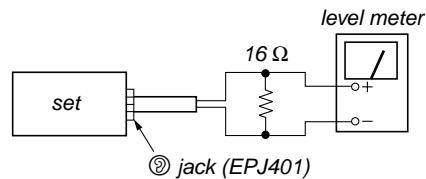
ELECTRICAL ADJUSTMENTS

3-1. MW SECTION

BAND switch : MW



400Hz, 30%
AM modulation
Output level: as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

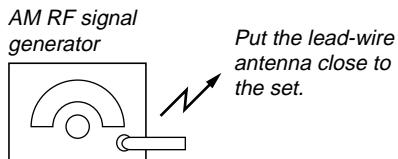
MW IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	455kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	520kHz
CT4	1,650kHz

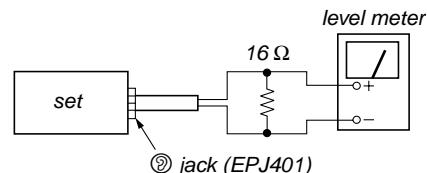
MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2-1	600kHz
CT1	1,400kHz

3-2. LW SECTION

BAND switch : LW



400Hz, 30%
AM modulation
Output level: as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

LW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

CT6	145kHz
< confirmation >	265kHz

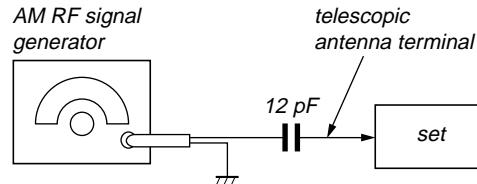
LW TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

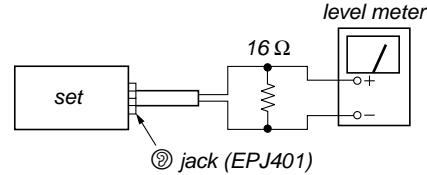
L2-2	160kHz
CT2	240kHz

3-3. SW SECTION

BAND switch : SW



400Hz, 30%
AM modulation
Output level: as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

SW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L5	5.8MHz
CT5	18.5MHz

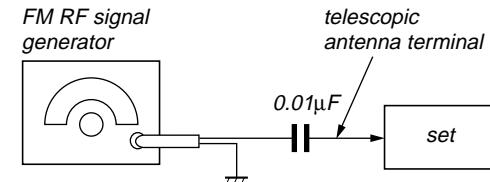
SW TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

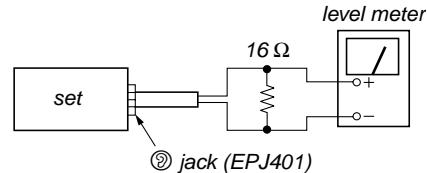
L3	5.8MHz
CT3	18.5MHz

3-4. FM SECTION

BAND switch : FM



400Hz, 30% FM modulation
frequency deviation ±22.5kHz
Output level: as low as possible



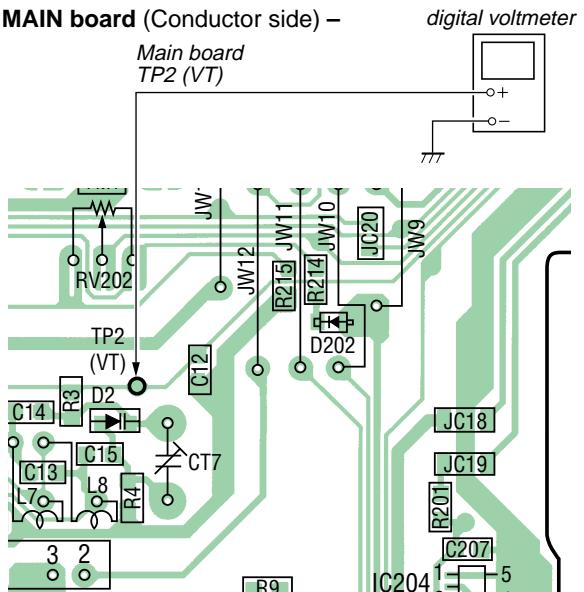
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L9	86.5MHz
CT8	109.5MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L7, L8	86.5MHz
CT7	109.5MHz

• Connecting Digital Voltmeter

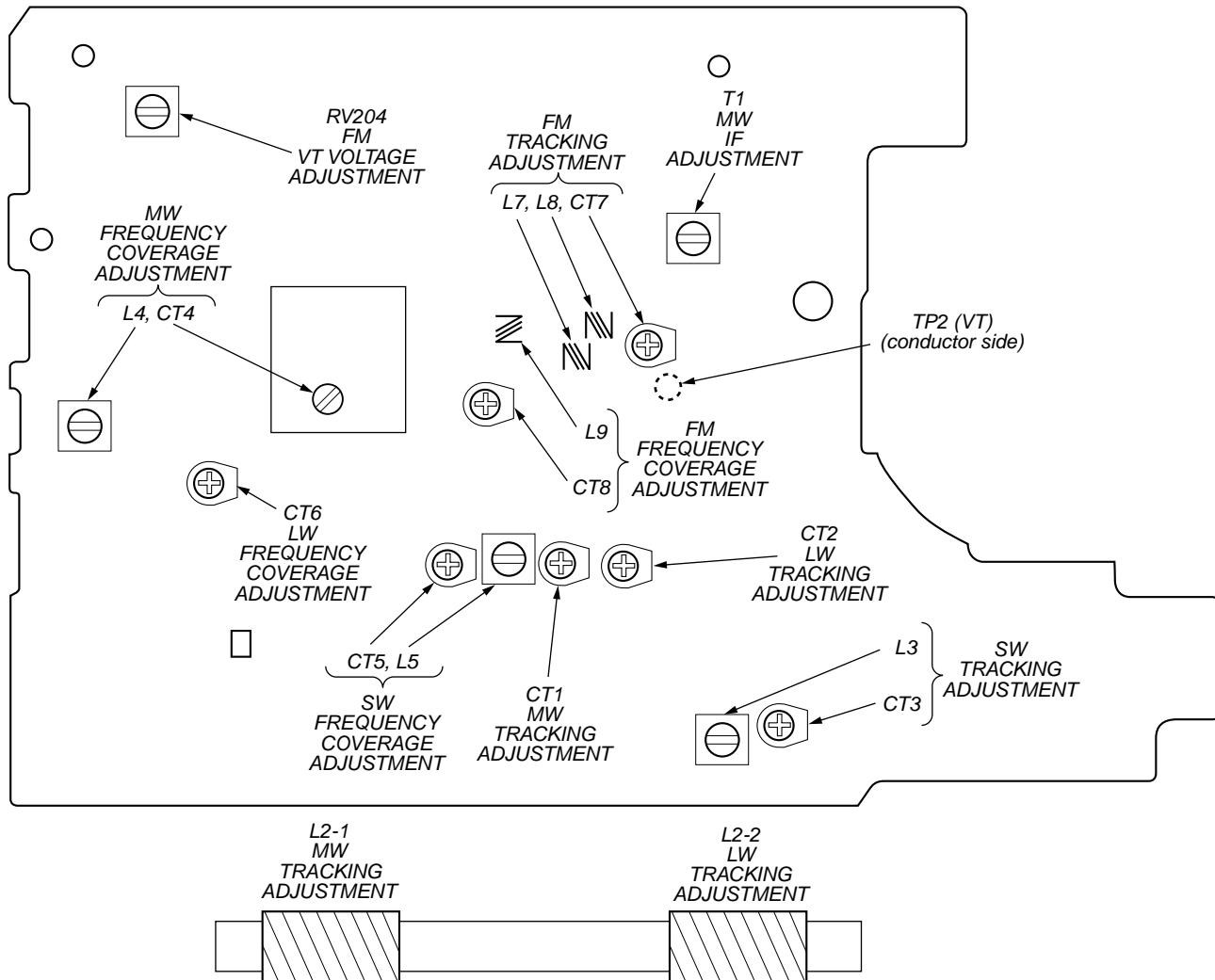
– MAIN board (Conductor side) –



FM VT VOLTAGE ADJUSTMENT	
Frequency Display	86.5MHz
Reading on Digital Voltmeter	Adjustment value : 1.0V Standard value : 0.9 – 1.1V
Adjustment Part	RV204

Adjustment Location : Main board

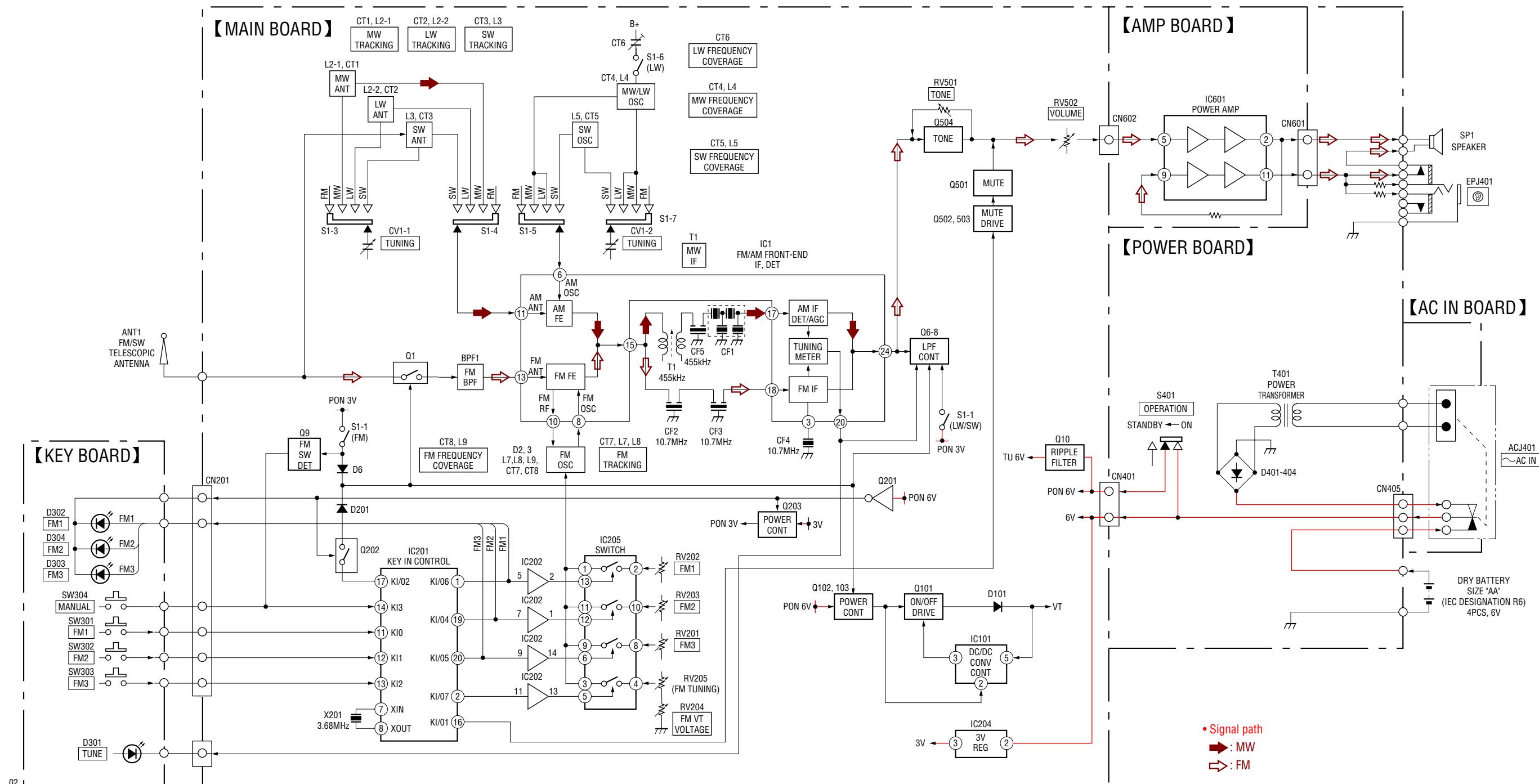
– MAIN BOARD (Component side) –



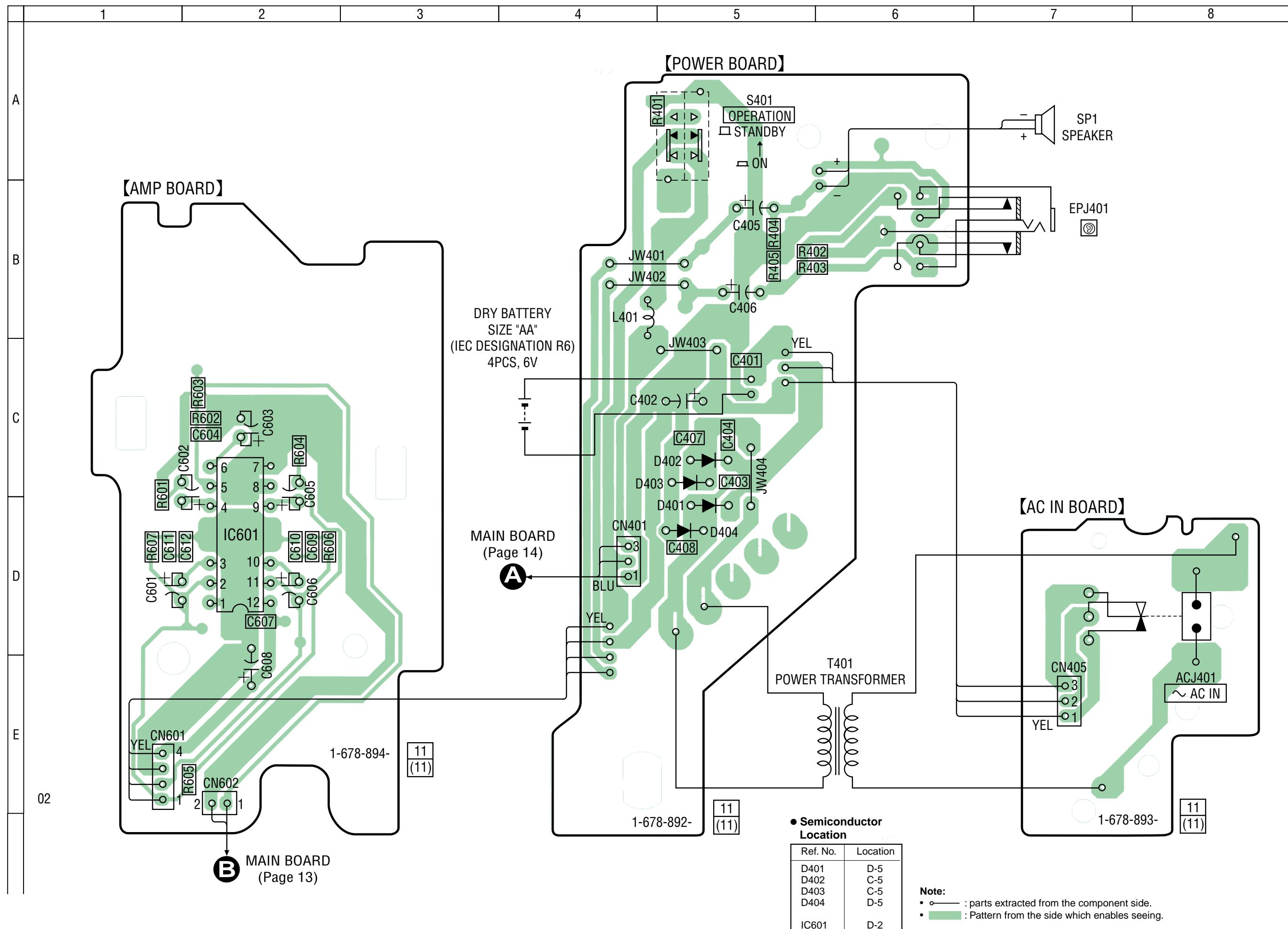
SECTION 4

DIAGRAMS

4-1. BLOCK DIAGRAM



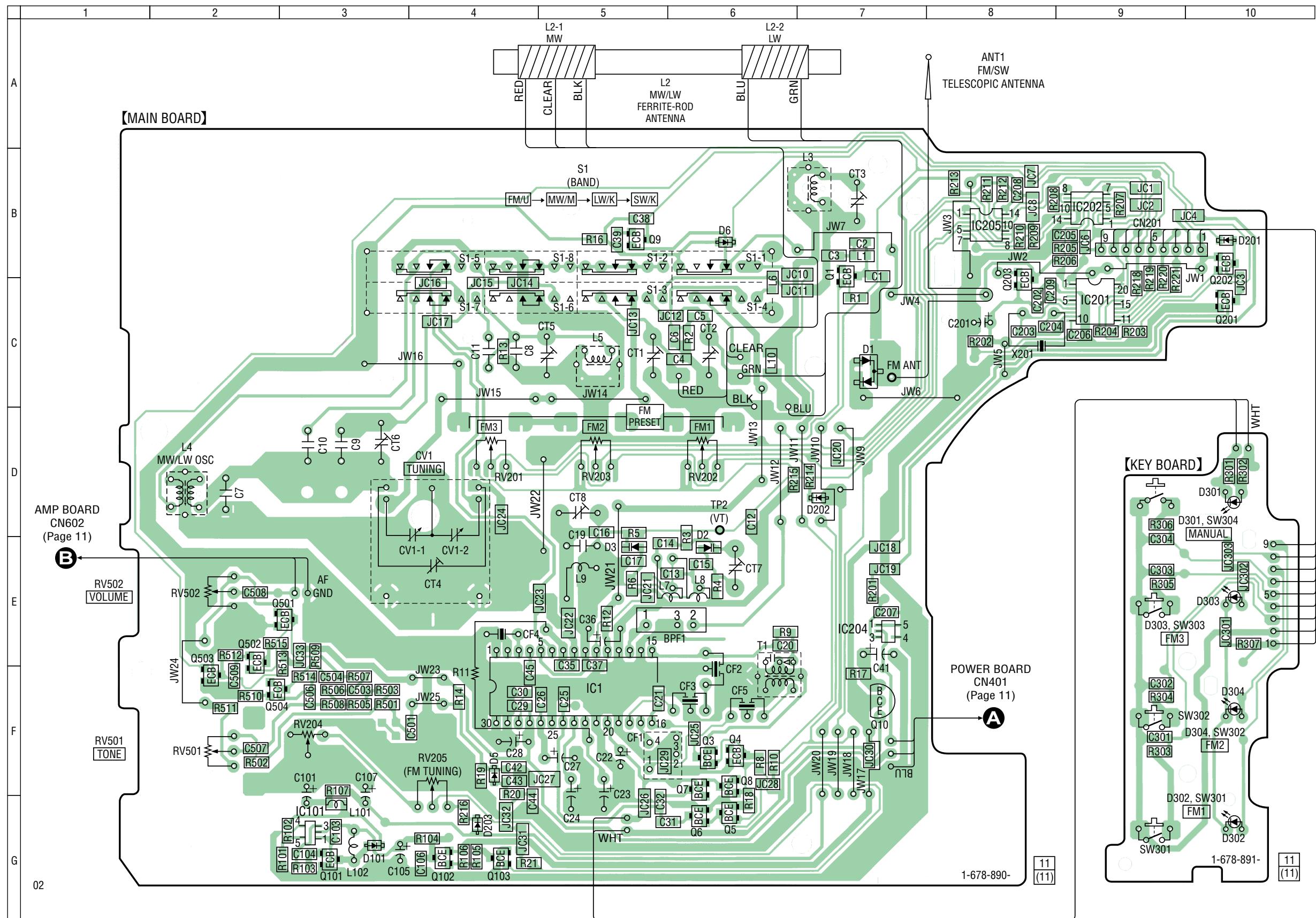
4-2. PRINTED WIRING BOARDS (1/2)



4-3. PRINTED WIRING BOARDS (2/2)

- Semiconductor Location

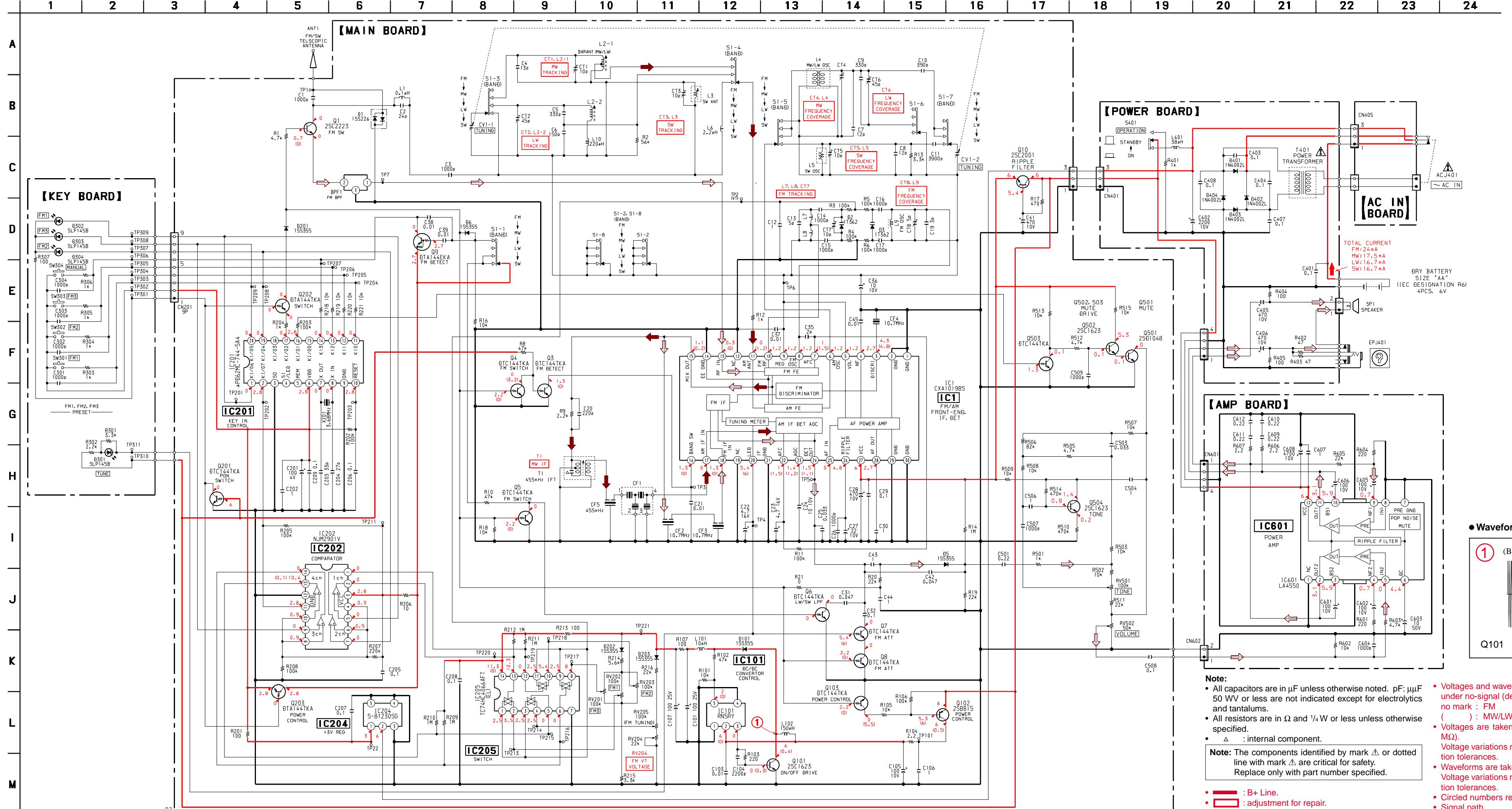
Ref. No.	Location
D1	C-7
D2	E-6
D3	E-5
D5	F-4
D6	B-6
D101	G-3
D201	B-10
D202	D-7
D203	G-4
D301	D-10
D302	G-10
D303	E-10
D304	F-10
IC1	F-5
IC101	G-3
IC201	C-9
IC202	B-9
IC204	E-7
IC205	B-8
Q1	B-7
Q3	F-6
Q4	F-6
Q5	G-6
Q6	G-6
Q7	F-6
Q8	F-6
Q9	B-5
Q10	F-7
Q101	G-3
Q102	G-4
Q103	G-4
Q201	C-10
Q202	B-10
Q203	C-8
Q501	E-3
Q502	E-2
Q503	F-2
Q504	F-2



Note:-

- : parts extracted from the component side.
- △ : internal component.
- : Pattern from the side which enables seeing.

4-4. SCHEMATIC DIAGRAMS



- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
- Voltages are in Volts unless otherwise noted.
- Currents are in Amperes unless otherwise noted.
- Frequency is in Hertz unless otherwise noted.

-  : internal component.

Note: The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

- : B+ Line.
- : adjustment for repair.
- Power voltage is dc 6 V and fed with regulated dc power supply from battery terminal

and waveforms are dc with respect to ground signal (detuned) conditions.

-signal (detuned) conditions.
: FM
: MW/LW/SW

are taken with a VOM (Input impedance 10

variations may be noted due to normal produc-
ances.

variations may be noted due to normal produc-

Numbers refer to waveforms.

th.
TM

SECTION 5 EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color indication of Appearance Parts Example : KNOB, BALANCE (WHITE) ... (RED)

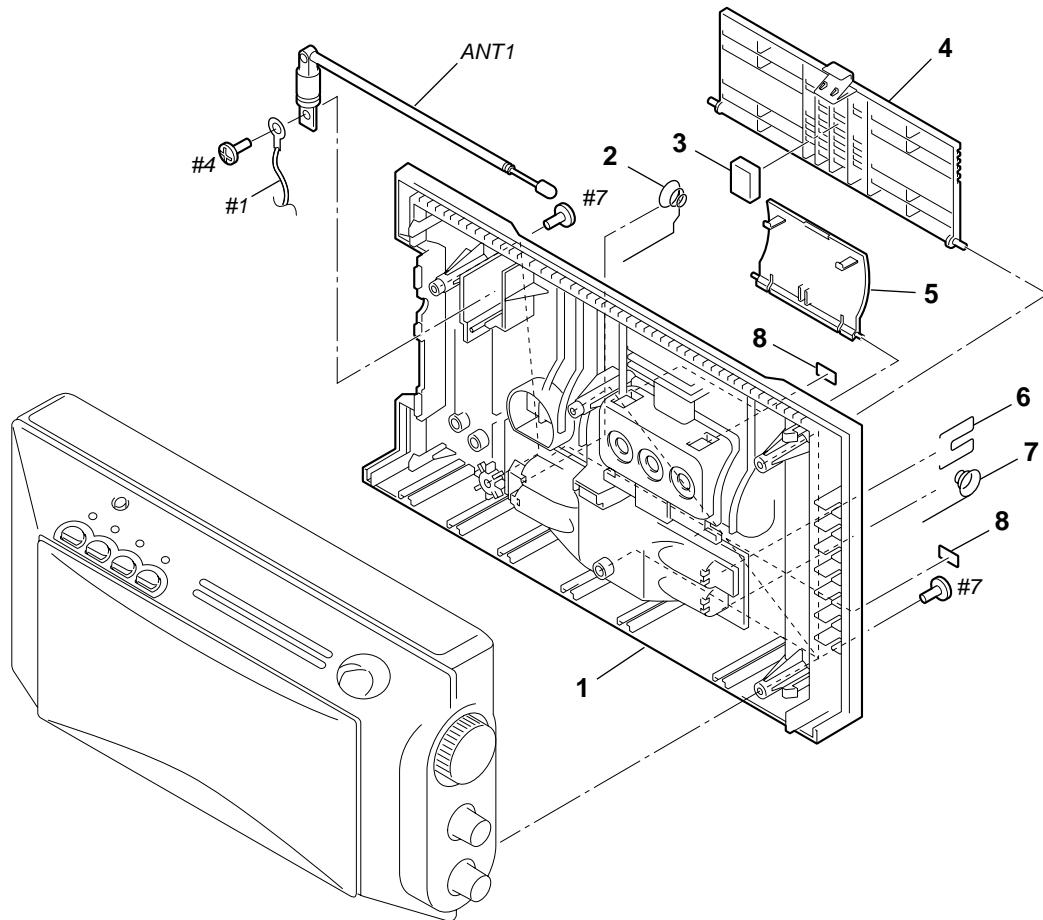
↑
Parts color Cabinet's color

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

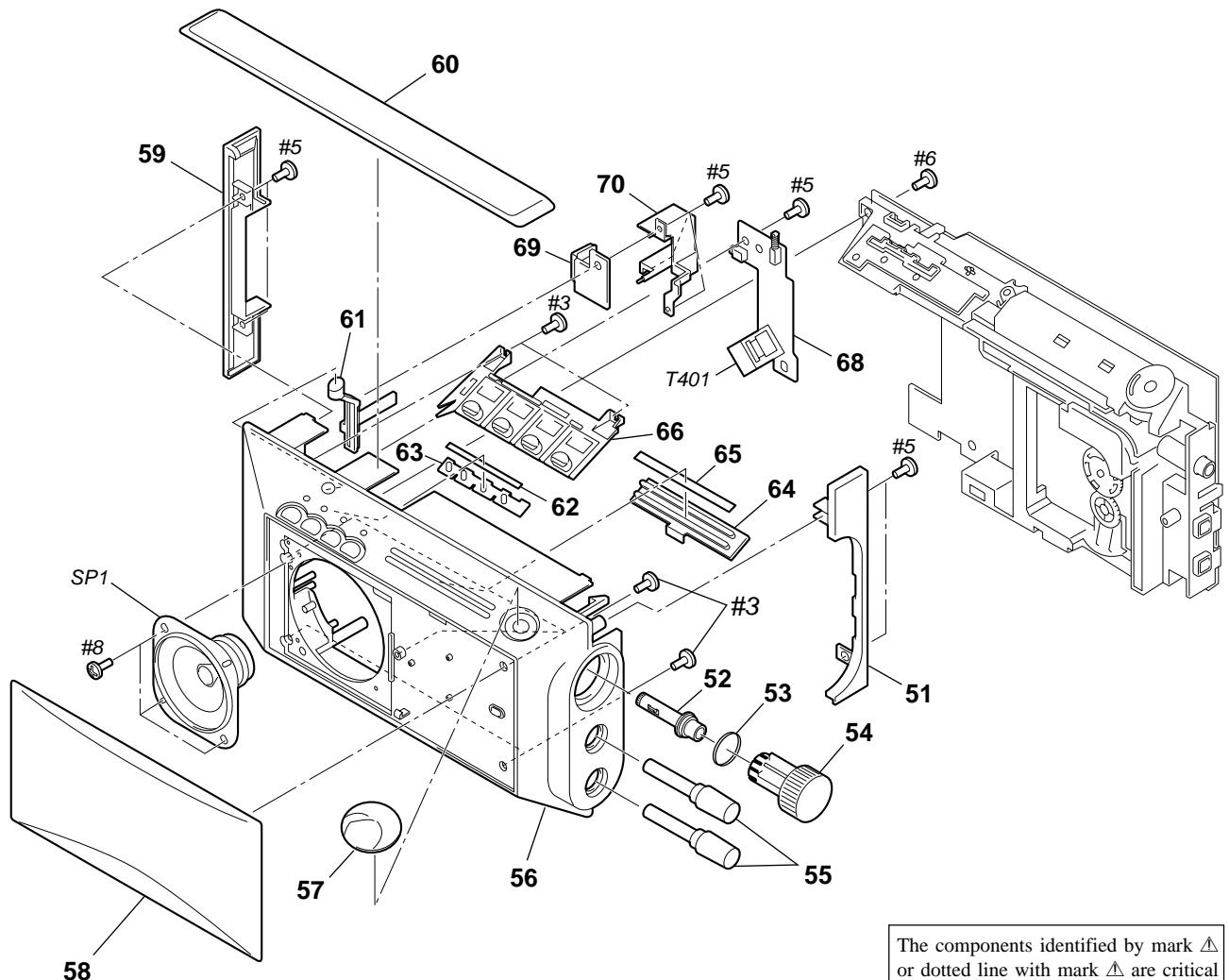
The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

5-1. REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-047-918-01	CABINET (REAR)(GRAY)		5	3-047-921-01	COVER (PRESET)(GRAY)	
1	3-047-918-11	CABINET (REAR)(BROWN)		5	3-047-921-11	COVER (PRESET)(BROWN)	
2	3-047-934-01	TERMINAL (+/-), BATTERY		6	3-047-930-01	TERMINAL (+), BATTERY	
3	9-911-815-02	CUSHION, CABINET		7	3-047-932-01	TERMINAL (-), BATTERY	
4	3-047-919-01	LID, BATTERY CASE(GRAY)		* 8	3-546-152-02	CUSHION	
4	3-047-919-11	LID, BATTERY CASE(BROWN)		ANT1	1-501-222-71	ANTENNA, TELESCOPIC (FM)	

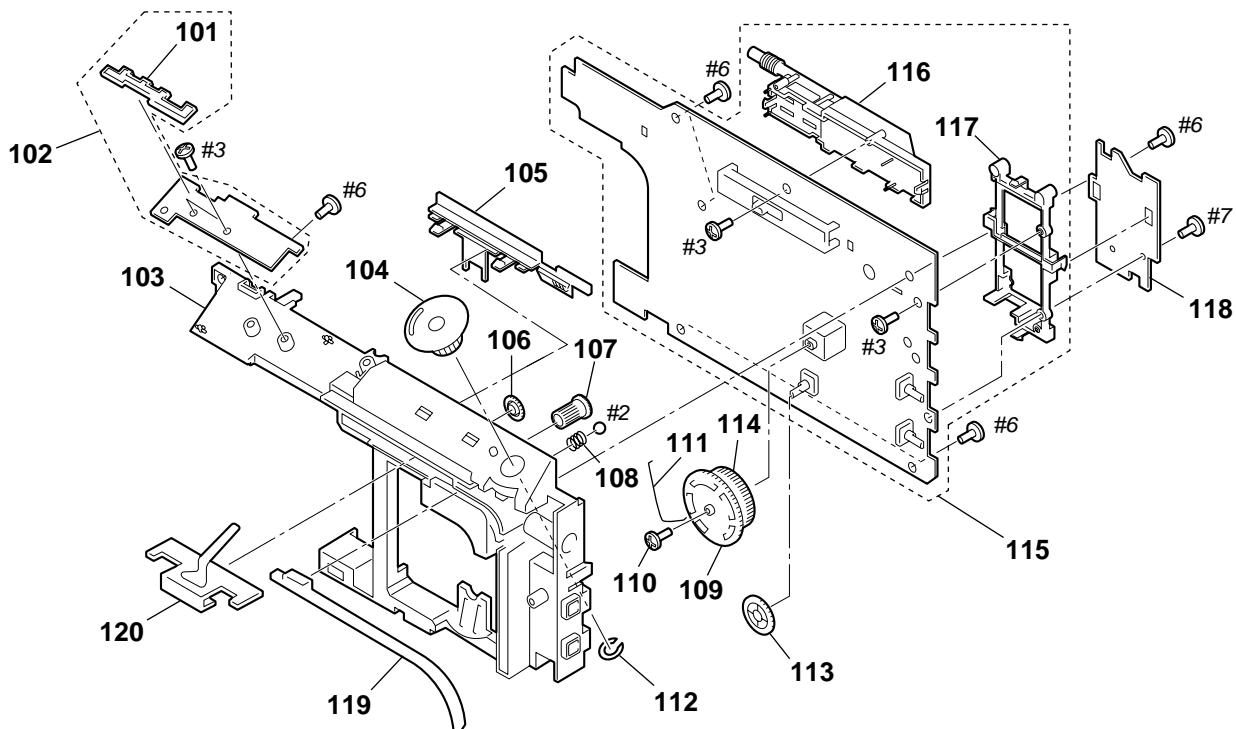
5-2. FRONT CABINET SECTION



The components identified by mark \triangleleft or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-047-923-01	WOOD (C), SIDE(GRAY)		60	3-047-936-11	WOOD (A), SIDE(BROWN)	
51	3-047-923-11	WOOD (C), SIDE(BROWN)		61	3-047-933-01	BUTTON (POWER)	
52	3-043-336-01	SHAFT (TUNING)		62	3-220-209-01	SHEET (LIGHT GUIDE PLATE)	
53	3-045-680-01	SPRING (TUNING)		63	3-047-927-01	PLATE, LIGHT GUIDE	
54	3-047-931-01	KNOB (TUNING)		64	3-047-926-01	PLATE, TRANSPARENT	
55	3-047-929-01	KNOB (CONTROL)		65	3-220-208-01	SHEET (TRANSPARENT PLATE)	
56	3-047-916-01	CABINET (FRONT)(GRAY)		66	3-047-928-01	BUTTON (PRESET)	
56	3-047-916-11	CABINET (FRONT)(BROWN)		* 68	1-678-892-11	POWER BOARD	
57	3-043-343-21	KNOB (BAND)		* 69	1-678-893-11	AC IN BOARD	
58	X-3379-581-1	NET ASSY (GRAY)		70	3-047-924-01	HOLDER	
58	X-3379-582-1	NET ASSY (BROWN)		SP1	1-529-803-11	SPEAKER (10.3cm)	
59	3-047-937-01	WOOD (B), SIDE(GRAY)		△T401	1-435-504-11	TRANSFORMER, POWER	
59	3-047-937-11	WOOD (B), SIDE(BROWN)					
60	3-047-936-01	WOOD (A), SIDE(GRAY)					

5-3. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-047-925-01	HOLDER (LED)		111	3-363-366-11	SPRING, DRUM	
* 102	A-3683-227-A	KEY BOARD,COMPLETE		112	3-048-207-01	RING (BAND)	
103	3-043-330-01	CHASSIS		113	3-043-341-01	GEAR, VOL	
104	3-043-344-01	GEAR (BAND)		114	3-043-342-01	DRUM (A), VC	
105	3-043-345-01	SLIDER (BAND)		* 115	A-3683-226-A	MAIN BOARD,COMPLETE	
106	3-043-350-01	GEAR (B), MIDWAY		116	3-043-346-01	HOLDER, FERRITE-ROD ANTENNA	
107	3-043-349-01	GEAR (A), MIDWAY		117	3-220-210-01	CHASSIS, SUB	
108	3-043-721-01	SPRING (BAND)		* 118	1-678-894-11	AMPLIFIER BOARD	
* 109	3-363-397-01	DRUM (B)		119	3-043-348-01	RACK (POINTER)	
110	3-364-941-11	SCREW (+B) (2.6X5), NYLOK		120	3-043-347-01	POINTER	

SECTION 6

ELECTRICAL PARTS LIST

AC IN	AMPLIFIER
KEY	MAIN

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- **RESISTORS**
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE :Metal oxide-film resistor
F : nonflammable
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

SEMICONDUCTORS

In each case, u : μ , for example :
 $uA....$: $\mu A....$, $uPA....$: $\mu PA....$
 $uPB....$: $\mu PB....$, $uPC....$: $\mu PC....$
 $uPD....$: $\mu PD....$

CAPACITORS

uF : μF

COILS

uH : μH

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description					Remark	Ref. No.	Part No.	Description					Remark
*	1-678-893-11	AC IN BOARD	*****					*	A-3683-227-A	KEY BOARD, COMPLETE	*****				
\triangle ACJ401 1-526-838-11 INLET, AC 2P(\sim AC IN)															

*	1-678-894-11	AMPLIFIER BOARD	*****					3-047-925-01		HOLDER (LED)					
< CAPACITOR >															
C601	1-104-665-11	ELECT	100uF	20%	10V			C301	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50%		
C602	1-104-665-11	ELECT	100uF	20%	10V			C302	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		
C603	1-126-964-11	ELECT	10uF	20%	50V			C303	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		
C604	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V			C304	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		
C605	1-104-665-11	ELECT	100uF	20%	10V			< DIODE >							
C606	1-104-665-11	ELECT	100uF	20%	10V			D301	8-719-080-08	LED	SLP145B-51(TUNE)				
C607	1-115-156-11	CERAMIC CHIP	1uF		10V			D302	8-719-080-08	LED	SLP145B-51(FM1)				
C608	1-126-929-11	ELECT	4700uF	20%	10V			D303	8-719-080-08	LED	SLP145B-51(FM3)				
C609	1-165-128-11	CERAMIC CHIP	0.22uF		16V			D304	8-719-080-08	LED	SLP145B-51(FM2)				
C610	1-165-128-11	CERAMIC CHIP	0.22uF		16V			< JUMPER >							
C611	1-165-128-11	CERAMIC CHIP	0.22uF		16V			JC301	1-216-296-91	SHORT	0				
C612	1-165-128-11	CERAMIC CHIP	0.22uF		16V			JC302	1-216-296-91	SHORT	0				
< CONNECTOR >															
* CN601	1-568-270-11	SOCKET, CONNECTOR 4P						JC303	1-216-864-11	METAL CHIP	0	5%	1/16W		
* CN602	1-568-268-11	SOCKET, CONNECTOR 2P						< RESISTOR >							
< IC >															
IC601	8-759-802-46	IC LA4550						R301	1-216-827-11	METAL CHIP	3.3K	5%	1/16W		
< RESISTOR >								R302	1-216-825-11	METAL CHIP	2.2K	5%	1/16W		
R601	1-216-813-11	METAL CHIP	220	5%	1/16W			R303	1-216-821-11	METAL CHIP	1K	5%	1/16W		
R602	1-216-833-11	METAL CHIP	10K	5%	1/16W			R304	1-216-821-11	METAL CHIP	1K	5%	1/16W		
R603	1-216-829-11	METAL CHIP	4.7K	5%	1/16W			R305	1-216-821-11	METAL CHIP	1K	5%	1/16W		
R604	1-216-813-11	METAL CHIP	220	5%	1/16W			< SWITCH >							
R605	1-216-837-11	METAL CHIP	22K	5%	1/16W			SW301 1-692-444-11 SWITCH, KEY BOARD(FM1)							
R606	1-216-789-11	METAL CHIP	2.2	5%	1/16W			SW302 1-692-444-11	SWITCH, KEY BOARD(FM2)						
R607	1-216-789-11	METAL CHIP	2.2	5%	1/16W			SW303 1-692-444-11	SWITCH, KEY BOARD(FM3)						
*****								SW304 1-692-444-11	SWITCH, KEY BOARD(MANUAL)	*****					

*								*	A-3683-226-A	MAIN BOARD, COMPLETE	*****				

3-043-346-01 HOLDER, FERRITE-ROD ANTENNA															
3-220-210-01 CHASSIS, SUB															
7-685-533-19 SCREW +BTP 2.6X6 TYPE2 N-S															

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark						
< BAND PASS FILTER >																	
BPF1	1-236-022-11	FILTER, BAND PASS				C207	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
< CAPACITOR >																	
C1	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V	C208	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C2	1-162-975-11	CERAMIC CHIP	24PF	5%	50V	C209	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C3	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V	C501	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V						
C4	1-164-185-11	CERAMIC CHIP	13PF	5%	50V	C503	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V						
C5	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	C504	1-109-982-11	CERAMIC CHIP	1uF	10%	10V						
C6	1-162-955-11	CERAMIC CHIP	150PF	5%	50V	C506	1-109-982-11	CERAMIC CHIP	1uF	10%	10V						
C7	1-102-949-00	CERAMIC	12PF	5%	50V	C507	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V						
C8	1-102-949-00	CERAMIC	12PF	5%	50V	C508	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C9	1-136-355-11	FILM	330PF	5%	100V	C509	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V						
C10	1-104-732-11	FILM	390PF	5%	100V	< FILTER >											
C11	1-136-682-11	FILM	0.0039uF	5%	100V	CF1	1-567-845-11	FILTER, CERAMIC									
C12	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	CF2	1-577-600-81	FILTER, CERAMIC									
C13	1-162-936-11	CERAMIC CHIP	5PF	0.25PF	50V	CF3	1-577-600-81	FILTER, CERAMIC									
C14	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V	CF4	1-577-600-81	FILTER, CERAMIC									
C15	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V	CF5	1-781-790-11	FILTER, AM CERAMIC									
C16	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V	< CONNECTOR >											
C17	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V	CN201	1-580-188-11	SOCKET, CONNECTOR 9P									
C19	1-164-039-11	CERAMIC	3PF	5%	50V	< TRIMMER >											
C20	1-162-957-11	CERAMIC CHIP	220PF	5%	50V	CT1	1-141-354-21	CAP, TRIMMER 10PF(MW TRACKING)									
C21	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	CT2	1-141-320-11	CAP, TRIMMER 45PF(LW TRACKING)									
C22	1-124-259-11	ELECT	4.7uF	20%	16V	CT3	1-141-354-21	CAP, TRIMMER 10PF(SW TRACKING)									
C23	1-124-259-11	ELECT	4.7uF	20%	16V	CT4	1-151-679-11	CAP, VAR(TUNING)(MW FREQUENCY									
C24	1-124-261-00	ELECT	10uF	20%	50V	CT5	1-141-354-21	CAP, TRIMMER 10PF(SW FREQUENCY									
C25	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	CT6	1-141-320-11	CAP, TRIMMER 45PF(LW FREQUENCY									
C26	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	CT7	1-141-304-21	CAP, TRIMMER 10PF(FM TRACKING)									
C27	1-124-234-00	ELECT	22uF	20%	16V	CT8	1-141-299-11	CAP, CERAMIC TRIMMER 5PF(FM FREQUENCY									
C28	1-126-925-11	ELECT	470uF	20%	10V			COVERAGE)									
C29	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V			COVERAGE)									
C30	1-115-156-11	CERAMIC CHIP	1uF		10V	< VARIABLE CAPACITOR >											
C31	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	CV1	1-151-679-11	CAP, VAR(TUNING)									
C32	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	< DIODE >											
C35	1-162-932-11	CERAMIC CHIP	2PF	0.25PF	50V	D1	8-719-800-76	DIODE 1SS226									
C36	1-124-261-00	ELECT	10uF	20%	50V	D2	8-713-100-11	DIODE 1T362									
C37	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D3	8-713-100-11	DIODE 1T362									
C38	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D5	8-719-988-61	DIODE 1SS355TE-17									
C39	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D6	8-719-988-61	DIODE 1SS355TE-17									
C41	1-126-925-11	ELECT	470uF	20%	10V	D101	8-719-988-61	DIODE 1SS355TE-17									
C42	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	D201	8-719-988-61	DIODE 1SS355TE-17									
C43	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	D202	8-719-988-61	DIODE 1SS355TE-17									
C44	1-115-156-11	CERAMIC CHIP	1uF		10V	D203	8-719-988-61	DIODE 1SS355TE-17									
C45	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	< IC >											
C101	1-128-111-11	ELECT	100uF	20%	25V	IC1	8-752-037-02	IC CXA1019S									
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC101	8-759-448-77	IC RN5RY202A-TL									
C104	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	IC201	8-759-680-16	IC IC UPD62MC-744-5A4-E2									
C105	1-124-584-00	ELECT	100uF	20%	10V	IC202	8-759-273-87	IC NJM2901V(TE2)									
C106	1-115-156-11	CERAMIC CHIP	1uF		10V	IC204	8-759-198-63	IC S-81230SG-QB-T1									
C107	1-128-111-11	ELECT	100uF	20%	25V	IC205	8-759-523-03	IC TC74HC4066AFT(EL)									
C201	1-124-584-00	ELECT	100uF	20%	10V												
C202	1-115-156-11	CERAMIC CHIP	1uF		10V												
C203	1-162-921-11	CERAMIC CHIP	33PF	5%	50V												
C204	1-162-920-11	CERAMIC CHIP	27PF	5%	50V												
C205	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V												
C206	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V												

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
< JUMPER >											
JC1	1-216-296-91	SHORT	0			Q101	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
JC2	1-216-296-91	SHORT	0			Q102	8-729-800-71	TRANSISTOR	2SB815B7-TB		
JC3	1-216-864-11	METAL CHIP	0	5%	1/16W	Q103	8-729-027-60	TRANSISTOR	DTC144TKA-T146		
JC4	1-216-296-91	SHORT	0			Q201	8-729-027-60	TRANSISTOR	DTC144TKA-T146		
JC6	1-216-864-11	METAL CHIP	0	5%	1/16W	Q202	8-729-027-39	TRANSISTOR	DTA144TKA-T146		
JC7	1-216-864-11	METAL CHIP	0	5%	1/16W	Q203	8-729-027-39	TRANSISTOR	DTA144TKA-T146		
JC8	1-216-296-91	SHORT	0			Q501	8-729-800-37	TRANSISTOR	2SD1048-X7		
JC10	1-216-296-91	SHORT	0			Q502	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
JC11	1-216-296-91	SHORT	0			Q503	8-729-027-60	TRANSISTOR	DTC144TKA-T146		
JC12	1-216-864-11	METAL CHIP	0	5%	1/16W	Q504	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
< RESISTOR >											
JC13	1-216-864-11	METAL CHIP	0	5%	1/16W	R1	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
JC14	1-216-296-91	SHORT	0			R2	1-216-842-11	METAL CHIP	56K	5%	1/16W
JC15	1-216-864-11	METAL CHIP	0	5%	1/16W	R3	1-216-845-11	METAL CHIP	100K	5%	1/16W
JC16	1-216-864-11	METAL CHIP	0	5%	1/16W	R4	1-216-845-11	METAL CHIP	100K	5%	1/16W
JC17	1-216-296-91	SHORT	0			R5	1-216-845-11	METAL CHIP	100K	5%	1/16W
JC18	1-216-296-91	SHORT	0			R6	1-216-845-11	METAL CHIP	100K	5%	1/16W
JC19	1-216-296-91	SHORT	0			R8	1-216-841-11	METAL CHIP	47K	5%	1/16W
JC20	1-216-864-11	METAL CHIP	0	5%	1/16W	R9	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
JC21	1-216-296-91	SHORT	0			R10	1-216-841-11	METAL CHIP	47K	5%	1/16W
JC22	1-216-296-91	SHORT	0			R11	1-247-879-11	CARBON	100K	5%	1/4W
JC23	1-216-296-91	SHORT	0			R12	1-216-821-11	METAL CHIP	1K	5%	1/16W
JC24	1-216-864-11	METAL CHIP	0	5%	1/16W	R13	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
JC25	1-216-864-11	METAL CHIP	0	5%	1/16W	R14	1-216-857-11	METAL CHIP	1M	5%	1/16W
JC26	1-216-296-91	SHORT	0			R16	1-216-833-11	METAL CHIP	10K	5%	1/16W
JC27	1-216-296-91	SHORT	0			R17	1-216-817-11	METAL CHIP	470	5%	1/16W
JC28	1-216-864-11	METAL CHIP	0	5%	1/16W	R18	1-216-833-11	METAL CHIP	10K	5%	1/16W
JC29	1-216-864-11	METAL CHIP	0	5%	1/16W	R19	1-216-837-11	METAL CHIP	22K	5%	1/16W
JC30	1-216-864-11	METAL CHIP	0	5%	1/16W	R20	1-216-837-11	METAL CHIP	22K	5%	1/16W
JC31	1-216-296-91	SHORT	0			R21	1-216-864-11	METAL CHIP	0	5%	1/16W
JC32	1-216-296-91	SHORT	0			R101	1-216-833-11	METAL CHIP	10K	5%	1/16W
JC33	1-216-864-11	METAL CHIP	0	5%	1/16W	R102	1-216-841-11	METAL CHIP	47K	5%	1/16W
< COIL >											
L1	1-410-981-22	INDUCTOR CHIP	0.1uH			R103	1-216-813-11	METAL CHIP	220	5%	1/16W
L2	1-754-133-11	ANTENNA, FERRITE-ROD	(LW/MW TRACKING)			R104	1-216-789-11	METAL CHIP	2.2	5%	1/16W
L3	1-402-538-11	SW COIL (ANT)	(SW TRACKING)			R105	1-216-833-11	METAL CHIP	10K	5%	1/16W
L4	1-406-092-11	COIL, OSC	(MW FREQUENCY COVERAGE)			R106	1-216-845-11	METAL CHIP	100K	5%	1/16W
L5	1-406-413-11	COIL, SW (OSC)	(SW FREQUENCY COVERAGE)			R107	1-216-809-11	METAL CHIP	100	5%	1/16W
L6	1-410-997-22	INDUCTOR CHIP	2.2uH			R201	1-216-809-11	METAL CHIP	100	5%	1/16W
L7	1-428-290-11	COIL, AIR-CORE	(FM TRACKING)			R202	1-216-845-11	METAL CHIP	100K	5%	1/16W
L8	1-428-229-11	COIL, AIR-CORE	(FM TRACKING)			R203	1-216-845-11	METAL CHIP	100K	5%	1/16W
L9	1-419-767-11	COIL, AIR-CORE	(FM FREQUENCY COVERAGE)			R204	1-216-821-11	METAL CHIP	1K	5%	1/16W
L10	1-414-406-11	INDUCTOR	220uH			R205	1-216-845-11	METAL CHIP	100K	5%	1/16W
L101	1-412-006-31	INDUCTOR CHIP	10uH			R206	1-216-797-11	METAL CHIP	10	5%	1/16W
L102	1-410-335-11	INDUCTOR	150uH			R207	1-216-849-11	METAL CHIP	220K	5%	1/16W
< TRANSISTOR >											
Q1	8-729-102-07	TRANSISTOR	2SC2223-F13			R208	1-216-845-11	METAL CHIP	100K	5%	1/16W
Q3	8-729-027-60	TRANSISTOR	DTC144TKA-T146			R209	1-216-857-11	METAL CHIP	1M	5%	1/16W
Q4	8-729-027-60	TRANSISTOR	DTC144TKA-T146			R210	1-216-857-11	METAL CHIP	1M	5%	1/16W
Q5	8-729-027-60	TRANSISTOR	DTC144TKA-T146			R211	1-216-857-11	METAL CHIP	1M	5%	1/16W
Q6	8-729-027-60	TRANSISTOR	DTC144TKA-T146			R212	1-216-857-11	METAL CHIP	1M	5%	1/16W
Q7	8-729-027-60	TRANSISTOR	DTC144TKA-T146			R213	1-216-809-11	METAL CHIP	100	5%	1/16W
Q8	8-729-027-60	TRANSISTOR	DTC144TKA-T146			R214	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
Q9	8-729-027-38	TRANSISTOR	DTA144EKA-T146			R215	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
Q10	8-729-142-46	TRANSISTOR	2SC2001-LK			R216	1-216-837-11	METAL CHIP	22K	5%	1/16W
						R218	1-216-833-11	METAL CHIP	10K	5%	1/16W
						R219	1-216-833-11	METAL CHIP	10K	5%	1/16W
						R220	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark	
R221	1-216-833-11	METAL CHIP	10K 5%	1/16W	D403	8-719-031-85	DIODE 1N4002L	
R501	1-216-821-11	METAL CHIP	1K 5%	1/16W	D404	8-719-031-85	DIODE 1N4002L	
R502	1-216-833-11	METAL CHIP	10K 5%	1/16W			< JACK >	
R503	1-216-833-11	METAL CHIP	10K 5%	1/16W	EPJ401	1-566-891-21	JACK (②)	
R505	1-216-829-11	METAL CHIP	4.7K 5%	1/16W			< JUMPER >	
R506	1-216-844-11	METAL CHIP	82K 5%	1/16W	JC402	1-216-296-91	SHORT 0	
R507	1-216-833-11	METAL CHIP	10K 5%	1/16W			< COIL >	
R508	1-216-833-11	METAL CHIP	10K 5%	1/16W	L401	1-410-294-11	INDUCTOR 38uH	
R509	1-216-833-11	METAL CHIP	10K 5%	1/16W			< RESISTOR >	
R510	1-216-817-11	METAL CHIP	470 5%	1/16W	R401	1-216-821-11	METAL CHIP 1K 5%	1/16W
R511	1-216-837-11	METAL CHIP	22K 5%	1/16W	R402	1-216-805-11	METAL CHIP 47 5%	1/16W
R512	1-216-829-11	METAL CHIP	4.7K 5%	1/16W	R403	1-216-805-11	METAL CHIP 47 5%	1/16W
R513	1-216-833-11	METAL CHIP	10K 5%	1/16W	R404	1-216-809-11	METAL CHIP 100 5%	1/16W
R514	1-216-853-11	METAL CHIP	470K 5%	1/16W	R405	1-216-809-11	METAL CHIP 100 5%	1/16W
R515	1-216-833-11	METAL CHIP	10K 5%	1/16W			< VARIABLE RESISTOR >	
RV201	1-241-377-11	RES, VAR, CARBON 100K(FM3)			S401	1-571-042-11	SWITCH, PUSH (1 KEY)(OPERATION)	
RV202	1-241-377-11	RES, VAR, CARBON 100K(FM1)					*****	
RV203	1-241-377-11	RES, VAR, CARBON 100K(FM2)						
RV204	1-241-765-11	RES, ADJ, CARBON 22K(FM VT VOLTAGE)						
RV205	1-223-621-11	RES, VAR, CARBON 100K(FM TUNING)						
RV501	1-227-240-11	RES, VAR, CARBON 100K(TONE)						
RV502	1-225-498-11	RES, VAR, CARBON 50K(VOLUME)						
			< SWITCH >					
S1	1-571-172-21	SWITCH, SLIDE(BAND)			SP1	1-529-803-11	SPEAKER (10.3cm)	
			< TRANSFORMER >		ANT1	1-501-222-71	ANTENNA, TELESCOPIC (FM)	
T1	1-404-902-11	TRANSFORMER, IF (MW IF)			T401	1-435-504-11	TRANSFORMER, POWER	
			< VIBRATOR >				*****	
X201	1-579-452-11	OSCILLATOR, CERAMIC(3.68MHz)			△	1-696-562-11	CORD, POWER (AEP)	
*	1-678-892-11	POWER BOARD			△	1-751-115-11	CORD, POWER (UK)	
			*****		3-049-016-11	MANUAL, INSTRUCTION(ENGLISH,FRENCH, GERMAN,SPANISH,ITALIAN,DUTCH,SWEDISH, PORTUGUESE,FINNISH,DANISH)		
			< CAPACITOR >				*****	
C401	1-107-826-11	CERAMIC CHIP	0.1uF 10%	16V				
C402	1-126-927-11	ELECT	2200uF 20%	10V				
C403	1-164-156-11	CERAMIC CHIP	0.1uF	25V	#1	7-623-508-01	LUG, 3	
C404	1-164-156-11	CERAMIC CHIP	0.1uF	25V	#2	7-671-112-11	BALL, STEEL	
C405	1-126-925-11	ELECT	470uF 20%	10V	#3	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
C406	1-126-925-11	ELECT	470uF 20%	10V	#4	7-685-534-14	SCREW +BTP 2.6X8 TYPE2 N-S	
C407	1-164-156-11	CERAMIC CHIP	0.1uF	25V	#5	7-685-535-19	SCREW +BTP 2.6X10 TYPE2 N-S	
C408	1-164-156-11	CERAMIC CHIP	0.1uF	25V	#6	7-685-547-19	SCREW +BTP 3X10 TYPE2 N-S	
			< CONNECTOR >		#7	7-685-551-14	SCREW +BTP 3X20 TYPE2 N-S	
CN401	1-568-269-11	SOCKET, CONNECTOR 3P			#8	7-685-903-11	SCREW +PTPWH 3X6 (TYPE2)	
CN405	1-568-269-11	SOCKET, CONNECTOR 3P						
			< DIODE >					
D401	8-719-031-85	DIODE 1N4002L						
D402	8-719-031-85	DIODE 1N4002L						

The components identified by mark ▲ or dotted line with mark △ are critical for safety. Replace only with part number specified.